

WHAT IS CLAIMED IS:

1. A method for accessing a service in a distributed computing environment, comprising:

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a client locating a first service within the distributed computing environment;

the client requesting a capability credential to allow the client access to a portion
of the first service's capabilities, wherein said requesting a capability
credential comprises the client indicating a set of desired capabilities;

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the client receiving said capability credential, wherein said capability credential
indicates that the client has the right to use said portion of the first
service's capabilities; and

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the client using said capability credential to access one or more of said portion of
the first service's capabilities.

2. The method as recited in claim 1, wherein said requesting a capability credential
comprises the client sending a capability credential request message, wherein said
capability credential request message comprises an identification of said first service and
an indication of the set of desired capabilities.

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3. The method as recited in claim 2, wherein said identification of said first service
comprises a Universal Unique Identifier (UUID).

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4. The method as recited in claim 2, wherein said capability credential request
message is formatted in eXtensible Markup Language (XML).

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5. The method as recited in claim 2, further comprising:

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the client receiving an advertisement for the first service, wherein said advertisement describes the portion of the first service's capabilities; and

5 wherein said indication of the set of desired capabilities comprises an indication of said advertisement.

6. The method as recited in claim 5, wherein said indication of said advertisement is said advertisement itself.

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7. The method as recited in claim 5, wherein said indication of said advertisement is a Uniform Resource Identifier (URI) to said advertisement.

8. The method as recited in claim 5, wherein said advertisement describes all of the first service's capabilities, and wherein said indication of said advertisement in said capability credential request message in a version of said advertisement edited to describe only said set of desired capabilities.

9. The method as recited in claim 5, wherein said advertisement is a protected
20 advertisement that describes the first service's capabilities but does not provide an
interface to the first service's capabilities.

10. The method as recited in claim 1, further comprising:

25 the client receiving a protected advertisement for the first service, wherein said
protected advertisement indicates an address for sending said capability
credential request message to; and

wherein said requesting a capability credential comprises the client sending a capability credential request message to said address indicated in said protected advertisement.

5 11. The method as recited in claim 10, wherein said address indicated in said protected advertisement is for an authentication service, wherein said sending a capability credential request message comprises sending said capability credential request message to said authentication service, the method further comprising the authentication service sending a credential request response message to the client in response to said capability
10 credential request message.

12. The method as recited in claim 11, wherein said credential request response message includes said capability credential, wherein said receiving said capability credential comprises receiving said capability credential from said authentication service
15 in said credential request response message.

13. The method as recited in claim 1, further comprising:

the client receiving a protected advertisement for the first service, wherein said
20 protected advertisement indicates an authentication service; and

wherein said requesting a capability credential comprises the client requesting a capability credential from said authentication service.

25 14. The method as recited in claim 13, the method further comprising:

said authentication service determining a level of the first service's capabilities that the client is authorized to use;

said authentication service generating said capability credential according to said level and said set of desired capabilities; and

said authentication service sending said capability credential to the client, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is no more than said set of desired capabilities.

15. The method as recited in claim 14, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is the lesser of said level of the first service's capabilities that the client is authorized to use and said set of desired capabilities.

16. The method as recited in claim 1, wherein said using said capability credential to
15 access one or more of said portion of the first services capabilities comprises the client
sending a message to the first service to access a first capability, wherein the message
includes said capability credential, the method further comprising the first service
authenticating said capability credential received in the message to verify that the client
has the right to use said first capability.

17. A client device, comprising:

a connection to a distributed computing environment;

an interface coupled to said connection and configured to locate a first service within the distributed computing environment;

wherein the interface is further configured to request over the connection a capability credential for a set of desired capabilities to allow the client on the client device access to a portion of the first service's capabilities;

request a capability credential by requesting a capability credential from said authentication service.

5 30. The client device as recited in claim 29, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is the lesser of said level of the first service's capabilities that the client is authorized to use and said set of desired capabilities.

10 31. The client device as recited in claim 17, wherein the interface is configured to use said capability credential to access one or more of said portion of the first services capabilities for said client by sending a message to the first service to access a first capability, wherein the message includes said capability credential so that the first service may authenticate said capability credential received in the message to verify that the
15 client has the right to use said first capability.

32. The client device as recited in claim 17, wherein said interface comprises one or more processes executable on a processor within the client device.

20 33. A carrier medium comprising program instructions, wherein the program instructions are computer-executable on a client device to implement:

locating a first service within the distributed computing environment;

25 requesting a capability credential to allow a client on the client device access to a portion of the first service's capabilities, wherein said requesting a capability credential comprises the client indicating a set of desired capabilities;

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receiving said capability credential, wherein said capability credential indicates that the client has the right to use said portion of the first service's capabilities; and

5 using said capability credential to access one or more of said portion of the first
service's capabilities.

34. The carrier medium as recited in claim 33, wherein said requesting a capability credential comprises the client sending a capability credential request message, wherein
10 said capability credential request message comprises an identification of said first service and an indication of the set of desired capabilities.

35. The carrier medium as recited in claim 34, wherein said identification of said first service comprises a Universal Unique Identifier (UUID).

36. The carrier medium as recited in claim 34, wherein said capability credential request message is formatted in eXtensible Markup Language (XML).

37. The carrier medium as recited in claim 34, wherein the program instructions are
20 computer-executable on the client device to further implement:

receiving an advertisement for the first service, wherein said advertisement describes the portion of the first service's capabilities; and

25 wherein said indication of the set of desired capabilities comprises an indication
of said advertisement.

38. The carrier medium as recited in claim 37, wherein said indication of said advertisement is said advertisement itself.

44. The carrier medium as recited in claim 43, wherein said receiving said capability credential comprises receiving said capability credential from said authentication service in a credential request response message.

5 45. The carrier medium as recited in claim 33, wherein the program instructions are computer-executable on the client device to further implement:

receiving a protected advertisement for the first service, wherein said protected advertisement indicates an authentication service; and

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wherein said requesting a capability credential comprises the client requesting a capability credential from said authentication service.

15 46. The carrier medium as recited in claim 45, wherein said portion of the first service's capabilities that said capability credential indicates that the client has a right to use is the lesser of said level of the first service's capabilities that the client is authorized to use and said set of desired capabilities.

20 47. The carrier medium as recited in claim 33, wherein said using said capability credential to access one or more of said portion of the first services capabilities comprises the client sending a message to the first service to access a first capability, wherein the message includes said capability credential so that the first service may authenticate said capability credential received in the message to verify that the client has the right to use said first capability.

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